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sustainable development

Win *GEO 2000*

● KOFI A. ANNAN
World Environment Day

● THE WORLD BANK
Special feature

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Editorial

B. Wahhia/UNEP

KLAUS TÖPFER
United Nations Under-Secretary General and Executive Director, UNEP

World Environment Day is an opportunity to celebrate biological and cultural diversity, and to reflect on the challenges of preserving them. Our use of non-renewable energy, our overextraction of timber, and the loss of biodiversity are all currently unsustainable. There are new challenges as well, including the development and use of genetically modified organisms.

The Global Ministerial Environment Forum – held just prior to World Environment Day in Malmö, Sweden – reflects a fundamental shift of the United Nations towards partnerships to promote peace and prosperity. Governments, international governmental and non-governmental organizations, the business community, and private citizens are all necessary partners if we are to meet these environmental challenges.

The Forum is a unique opportunity for environment ministers to bridge information and policy gaps on critical issues through informal discussions with global leaders from acadaemia, business and industry, and civil groups such as the media. Discussions will cut across a number of economic and social sectors and include debate on the roles of the private sector and civil groups in environmental protection. The discussions will also provide valuable input to preparations for the United Nations Millennium Assembly in September 2000, and the Rio + 10 meeting in 2002.

One of the major issues is globalization and the nexus between trade and the environment. The importance of finding the right bridge to integrate environmental protection and trade liberalization was brought sharply into focus recently during both the World Trade Organization meeting in Seattle and the World Bank/ International Monetary Fund meeting in Washington.

UNEP's *Global Environment Outlook 2000* highlights the immediacy of many environmental challenges and notes that time to avert some environmental crises is fast running out. Water – a principal indicator of development and environmental quality – is one of these. At the Forum, UNEP is presenting its new water policy outlining measures to bridge the gap between current policies and those that lead to the sustainable use of the world's water resources.

The magnitude of this crisis is clearly seen in the fact that every year humans around the world use 160 billion tonnes more water than is replenished, yet 1.2 billion people lack access to safe drinking water; annually there are 250 million cases of water-borne disease with 10 million repo.ted deaths.

Water is an appropriate theme for Australia, this year's World Environment Day host country. The megacities in the Asia-Pacific region of which it is part, as elsewhere, will be frontlines in the battle to manage water resources sustainably. Australians have pioneered major innovations in the delivery and treatment of water and sewage including a recent invention to remove arsenic cheaply from village water supplies in developing countries.

Water issues highlight the need to shift our policies and efforts away from short-term measures to clean up environmental mistakes. This shift poses the most fundamental question facing humanity: how do we create economies that reflect environmental protection and restoration in their every action? Business will be very much 'as un-usual' when, among other things, prices tell the ecological truth. But making this shift is the only way to bridge the gap between our current economies and our goal of sustainable development.

Fortunately, that process is under way – and there are solutions. The signing of the Cartagena Protocol on Biosafety, the success of the Montreal Protocol on Substances that Deplete the Ozone Layer, and the leadership shown by some forward-thinking members of the private sector are all hopeful signs that humanity is beginning to understand that without healthy ecologies, there can be no healthy economies.

We should celebrate our accomplishments on World Environment Day – and do so with a renewed sense of purpose and energy. Simultaneously, we should contemplate the many gifts we have and how we can unleash the tremendous power of the human imagination to create the technical, social, ethical and policy bridges we need to meet the environmental challenges of this new millennium ■

TIME TO ACT

ROBERT HILL outlines what Australia's people and Government are doing to fulfil the aims of World Environment Day 2000.

The theme for this year's international celebrations of World Environment Day is 'Time to Act'. For Australia this message is already somewhat dated. Every day millions of Australians are already taking action and contributing in some way to a better domestic and global environment. Recycling, for example, has been a huge success story – Australia has achieved world class recycling and recovery rates for newspapers and beverages, with the newsprint recycling rate currently standing at 56 per cent, well above other nations.

Our coastal cities are also acting to repair damage done to their local environment – restoring river banks, cleaning up beaches, repairing degraded land and reducing the harvest of endangered marine wildlife. The Australian Government has recognised that this environmental [illegible] represents the best way to manage and conserve our natural [illegible] environment for future generations. These [illegible] have shown that [illegible] be [illegible] – they [illegible] What they [illegible] [illegible] from the [illegible]

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[illegible] Robert Hill is Australian Minister for the [illegible] and Heritage.

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A climate **of change**

JOSE MARIA FIGUERES OLSEN and **CHRISTIANA FIGUERES** describe how business is leading the way into the decarbonized economy of the new century

Global climate change has ceased to be strictly an environmental threat, lurking in the future. Its potential impacts could well make it the greatest social and economic challenge that humanity will have to face in the coming century.

There is alarming data. In March of this year an 11,000-square-kilometre iceberg broke away from the Ross Ice Shelf in Antarctica. While breakaways are a natural process, this was the largest iceberg ever recorded. At the other end of the Earth, the Arctic Ocean's ice cover has thinned by an average of 1.2 metres – some 40 per cent – since 1960. More recently, relatively warm Atlantic water has pushed 20 per cent farther into the Arctic than scientists have ever seen, and that water is almost 1°C warmer than it was a decade ago. The poles are commonly considered to be bellwethers of global climate change, and so activists eagerly point to these and other unusual occurrences, wanting to convince us that they are irrevocable evidence of a warming trend for the planet.

Uncertainty and speculation

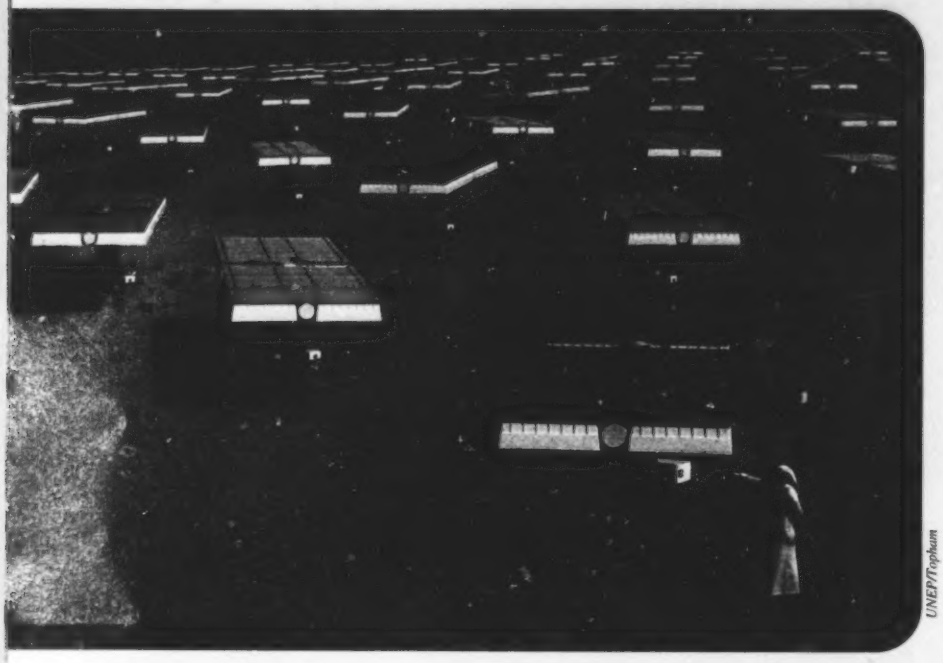
Unfortunately, scientists cannot leap to the same conclusions with equal passion. Current scientific knowledge cannot fully attribute the climatic catastrophes occurring before our eyes to unprecedented increases in concentrations of greenhouse gases. There is an admitted consensus that there is discernible human influence on the global climate, but its effects – and the speed at which we will experience them – can only be a matter of speculation.

Nonetheless – suspecting that the human race simply cannot afford the risk of failing to take action – the United Nations produced the Framework Convention on Climate Change in 1992. Its Kyoto Protocol, negotiated in 1997, would curb the greenhouse gas emission trajectories of industrialized nations, with the ultimate aim of beginning to stabilize concentrations in the atmosphere. However, it is highly uncertain whether the Protocol will be ratified by enough countries for it to go into effect before 2008, the beginning of the period during which the commitments they have made must be realized. If neither the Protocol, nor any other similar legal instrument, were to be in force, countries would be under no legally binding responsibility to reduce emissions.

Addressing complexity

Scientific uncertainty has always been with us. Political quagmire is not unusual when dealing with a highly complex phenomenon buttressed by conflicting national interests. What is remarkable, as we begin the year 2000, is the leadership being shown by the private sector.

The most striking event of the first months of this year is the demise of the Global Climate Coalition. Created in 1989, the Coalition is the oil and motor industry lobby group *par excellence*: it seeks to discredit theories of human-induced climate change and argues against reductions in emissions of carbon dioxide. It began to disintegrate when BP Amoco's Group Chief Executive, Sir John Browne, announced the company's withdrawal in 1997. Shell, Ford and Daimler Chrysler followed suit during 1999. In the first three months of this year a quick succession of further withdrawals – by Texaco, the Southern Company and General Motors – brought about ▸



UNEP/Topham

its final dissolution as a membership coalition open to individual companies.

Many of these visionary corporations are going further and incorporating the mitigation of climate change into their business strategies. BP Amoco and Shell are actively pursuing voluntary plans to reduce greenhouse gases, with the ultimate purpose of seeking the lowest marginal abatement cost of internal emission reduction measures. Tokyo Electric Power has announced an $82-million-dollar investment in reforestation in Australia. Daimler Chrysler's recent bid for a controlling stake in Mitsubishi Motors Corporation is a result of its need to diversify its mix of products by adding smaller, more fuel-efficient cars.

Revolutionary moves

These, and many other actions by large corporations, might seem senseless in a world marked by the uncertainty of science and regulation. But there are two clear reasons for them.

The first is competition. An energy revolution is now in the making, with advanced new technologies such as fuel cells, photovoltaics, wind turbines and flywheels entering the market. The reason why we moved beyond the horse and buggy a hundred years ago was not because we ran out of hay. Similarly, there is no doubt that the planet still has impressive oil reserves. However, as was the case when the oil era first emerged, those industries that successfully incorporate the new technologies will be well positioned to succeed economically in the 21st century.

Efficient energy systems will prevail sooner rather than later

Aware that – with or without the Kyoto Protocol – the future trend is toward less carbon-intensive economies, multinational corporations have seen that efficient energy systems with low emissions will prevail sooner rather than later. A slow but massive reallocation of assets has already begun. The shift is having an impact on investment decisions, as analysts begin to benchmark greenhouse gas efficiency as a mainstream component of the corporate investment strategy.

Thus corporate strategies to mitigate climate change are not environmental altruism, but sound economic sense. Projecting an efficient response to global warming is becoming an issue of strategic competitiveness. The more visionary companies are using this tool to gain advantage and market share, both at home and abroad. Indeed, industries that avoid action on climate change today may find that they have been bypassed by the competition, which has sought a strategic advance position in the new decarbonized economy.

Scientific uncertainty has always been with us

The second, and more exciting, reason for a changing corporate behaviour is shareholder value. In September 1999, Dow Jones and the Sam Sustainability Group launched the Dow Jones Sustainability Index, which tracks performance of the leading sustainability-driven companies worldwide. The Index addresses increasing investor interest in companies committed to innovative technology, industrial leadership and social well-being. Forward-looking companies manage the environmental and social factors – as well as the standard economic ones – affecting their businesses. There is mounting evidence that such management is directly related to their superior financial performance.

Paradigm shift

The relationship between these two factors demonstrates a real paradigm shift. Although there are as many definitions of sustainable development as there are people involved in promoting it, the crucial common denominator is assigning economic value to the long-term management of natural resources. The investing public has started to do this. The message is being directly received by listening corporations. National economies will have to follow suit.

The challenge of this new century will be mainstreaming environmental stewardship into our economy. The good news is, we have already started ■

José María Figueres Olsen is President of the Fundación Costa Rica para el Desarrollo Sostenible and former President of Costa Rica. Christiana Figueres is Executive Director of the Center for Sustainable Development in the Americas.

Melding **heart** and **head**

ROBERT MAY calls for agriculture that goes with the grain of nature to help preserve biodiversity in an increasingly crowded world

Today we are living at a very special time in the history of the Earth. It is a time which might come in the history of any inhabited planet, when the activities of one particular species – in this case, ourselves – come to rival the scale and scope of the natural processes which built, and which maintain, the planet's biosphere.

It is easy to be sceptical of such dramatic claims, which are often voiced around millennia or other years with many zeros in them. But there are objective facts which demonstrate just how special our own time is. For one thing, humans today take for their own use somewhere between a quarter and a half of all plant material that grows on earth each year. For another – from the tropical rainforests, across the grain fields of America, Europe and Asia, to the Arctic tundra – fully half of all the atoms of nitrogen and of phosphorous annually fixed in new plants come from human intervention in the form of fertilizers rather than natural cycles. Turning to the sea, we take 10 per cent of all its production each year, and larger amounts (around 30 per cent) in rich areas of nutrient upwelling.

On the whole, however, human life has improved during the 20th century. As one example, average life expectancy at birth, around the globe, in the 1950s was 46 years. Today it is 64 years. The 1950s figure may seem surprising to those who live in the developed world, but it comes into clearer perspective when it is recognized that, over the same roughly 50-year period, the average difference in longevity between the developed and the developing world shrank from 26 years to 12.

Partly as a result of such global changes in average health – and particularly in infant survival rates – human numbers have shown unprecedented growth over the latter half of the past century. The world population of 6 billion represents a fourfold increase over the century, and a 60 per cent increase over just the past 35 years. During this same 35 years, global food production has doubled. So there is 25 per cent more food per person today than there was three and a half decades ago. Today's lamentable problems of malnourishment and even famine in many parts of the world are problems of distribution – problems as old as agriculture itself, and not easily cured – rather than of food production as such.

Unforeseen costs

The Green Revolution that has doubled food supplies has, however, had unforeseen environmental costs. The doubling was achieved with an increase of only 10 or 20 per cent of arable land. But herbicides, pesticides, fertilizers and other inputs, all subsidized by fossil fuel energy subsidies, have much more than doubled. In particular, nitrogen from fertilizers has increased roughly seven times and is having adverse impacts on many rivers and water tables.

More generally, the Green Revolution has taken us a long ▸

way toward realizing the age-old aim of agriculture, which is efficiently to grow crops which only humans eat, not losing productivity to weeds (plants in the wrong place) or to insects, pathogens or other pests. Such increases in efficiency, and accompanying intensification, may be good news for farmers, and consequently for consumers (British people today spend, on average, 16 per cent of disposable income on feeding themselves, and in this sense food has never been so plentiful or cheap).

But all this represents bad news for the diverse populations of invertebrates, birds, and other creatures that share the countryside with us. *The State of the UK's Birds 1999*, recently published by the Royal Society for the Protection of Birds (RSPB) and the British Trust for Ornithology (BTO), for example, documents declines in populations of 41 species of woodland birds (on average down 20 per cent from the mid-1970s) and of 20 species of farmland birds (down 40 per cent over the same period).

More broadly, the outcome of intensification of agriculture, around the world, is an ever more Silent Spring. Documented extinctions of bird and mammal species over the past century or so are at a rate roughly 1,000 times faster than the rates seen, on average, over the half-billion-year sweep of the fossil record. The various causes are habitat destruction, unsustainably excessive harvesting and other exploitation, adverse impacts by introduced alien species, and – more often – combinations of all three.

Projections of future extinction rates are more difficult to make. Four different lines of argument, ranging from one which applies generally to all plants and animals, through to others which generalize from particular families of birds, reptiles and mammals, all suggest a roughly tenfold increase in extinction rates over the coming few centuries. These are sober, analytic estimates, free of the rhetorical exaggerations which sometimes afflict the subject. These estimates make it clear that we are currently on the breaking tip of a sixth great wave of extinction in the history of life on Earth, fully comparable with the Big Five in the fossil record, such as the one that extinguished the dinosaurs.

Relative value

So what will tomorrow's world be like? The extent to which biodiversity will actually diminish depends on the actions we take now. Estimates by Andrew Balmford and colleagues at Cambridge University suggest that worldwide we currently spend about $6 billion annually on nature reserves and other protected areas, which cover something like 6 per cent of the planet's land area. Increasing this to 10 per cent of the land, properly protected and managed, and with appropriate and sustainable compensation for local people, would cost around $30 billion each year. More important, but much more costly, Balmford and others estimate that current agriculture could be made more environmentally friendly, without significant loss of productivity, for an additional annual cost of around $300 billion. These are huge numbers,

Sonsoles Viktor/UNEP/Topham

The challenge of the century is to emphasize valid emotional and ethical arguments for conserving biological diversity

but they only represent about 1 per cent of global GDP, as it is conventionally calculated. These usual economists' calculations of GDP, however, take no account of the many services delivered to us by natural ecosystems, although the actual value of such ecosystem services has recently been estimated to be of similar magnitude to conventional GDP. Looking at it this way, I think an investment of 1 per cent of GDP to preserve such services is good value.

Diminishing gains

Toward the end of this century, estimates which I rate as rather optimistic suggest that – barring catastrophes – our descendants will live in a world of 10 billion people. How will they be fed? The Green Revolution, underpinned as it is by massive and unsustainable inputs of fossil fuel energy, already shows signs of diminishing gains. Just as we could not feed today's global population with yesterday's agriculture, I do not believe we can feed tomorrow's population with today's.

I share the belief of Gordon Conway, President of the Rockefeller Foundation (expressed in the last *Our Planet*) that we need his Doubly Green Revolution, where further gains in productivity are achieved in a sustainable and environmentally friendly way. Here I believe, looking beyond current debates, that new techniques of genetic manipulation (GM) offer us possibilities that can be used wisely or unwisely. GM methods are essentially just tools for achieving in a more precise, focused and rapid way the kinds of modification of crops that plant breeding has always given us (and in increasingly artificial ways over the past few decades). But we will get what we aim at. If we seek only further intensification of agriculture – a further ratcheting up in the spirit of the Green Revolution – then we may feed tomorrow's world, but it will be biologically impoverished, and I doubt its sustainability. If, on the other hand, we use our increasing understanding of the molecular machinery of life, along with other cultural changes, to produce an agriculture that works with the grain of nature – rather than using fossil fuel subsidies to wrench nature to our crops – then I hope we can achieve Conway's Doubly Green Revolution.

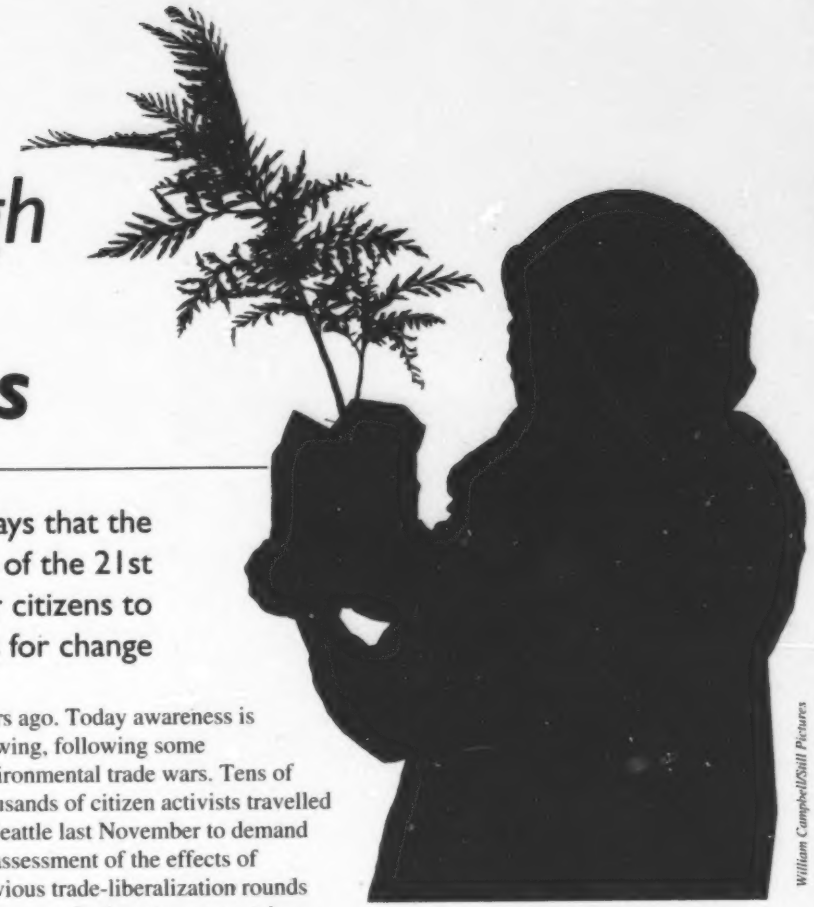
Harnessing impulse

Part of the motive for all this must be a more sustainable way of doing things. But a related part of the motive must come from our natural impulses of concern, and even affection, for the other creatures we share the world with. Too often, however, such concern expresses itself through a disproportionate focus on large mammals and colourful birds: 'charismatic megafauna'. Although understandable and effective in engaging a wider public, particularly in the developed world, these targets are not necessarily those that would be chosen in an analytic quest to preserve the maximum amount of the planet's evolutionary history, as written in the genetic richness and variability within today's living species. Although our emotions may relate most easily to the big mammals and the interesting birds, the smaller invertebrates and the diverse plant kingdom are more important for the functioning of many ecosystems, and they also carry more of the record of how life evolved on our planet. The justification that by saving charismatic megafauna we necessarily save large areas of habitat, and thence a host of less emotionally resonant invertebrates and plants, does not always survive close examination: such studies as do exist suggest that 'hot spots' for birds are often weakly correlated with 'hot spots' for particular plant and insect groups.

To summarize, I believe the challenge of the century is to emphasize valid emotional and ethical arguments for conserving biological diversity, but also to combine them with analytic approaches that ask questions – often cold and difficult ones – about which actions will, in the long run, be most effective in sustaining as much as possible of the biological riches and the unaccounted ecosystem services we have inherited. This melding of heart and head will, I think, pose tough challenges and choices. It is not an easy recipe for a new beginning to a new millennium ■

Sir Robert May is Chief Scientific Advisor to the United Kingdom Government, and head of its Office of Science and Technology.

Looking through ***green glasses***



William Campbell/Still Pictures

HEIDI HAUTALA says that the biggest political challenge of the 21st century is to empower citizens to make decisions for change

Green politics are not as new as they seem. As long ago as the middle of the 19th century, English authorities reacted to air pollution problems by evoking what came to be known as 'the precautionary principle' – trying to avoid action that may later prove to damage health. Now, in a major step forward, this approach has been written into the Biosafety Protocol agreed earlier this year.

The challenges to our common environment are worldwide. We must create a binding global order which gives a high priority – even precedence – to protecting the environment and human health, and respecting animals. For me, one of the most essential tasks is to remedy the worldwide free trade rules. No power on Earth, such as the World Trade Organization (WTO), should ever again be able to state that international agreements on combating climate change, for example, can only be considered if they do not contradict the free circulation of goods, capital and services.

Few decision makers recognized the underlying potential for conflict when the WTO was established just over five years ago. Today awareness is growing, following some environmental trade wars. Tens of thousands of citizen activists travelled to Seattle last November to demand an assessment of the effects of previous trade-liberalization rounds before any further steps were taken. Few still think that globalization will automatically benefit everyone, or contribute to the achievement of all valuable human goals. On closer inspection, it has proved to create problems and possibilities, like almost everything else.

Everyone must be empowered to feel that he or she can make a difference

Connecting people

Modern technologies, for example, might help indigenous and other local people in remote regions who are threatened with violence because they oppose the ruthless exploitation of natural resources by multinational oil industries. Connections between indigenous people and environmental activists in wealthier parts of the world have helped us to understand that environment and development are two sides of a single coin. We must urgently convince companies, banks and government agencies of the need to reconcile them.

Increasing participation is an essential part of any effort to heal our planet. Everyone is a constituent and resident of a local community. If they can overcome the widespread feeling of being disempowered at home, their capacity to make changes in a wider context will inevitably increase. The right of access to environmental information is a necessary step in giving citizens influence. Everyone should also have the right to environmental justice, the right to take any suspected violation of the rules on the protection of the environment to court. International agreements on environmental rights, such as the Arhus Convention, must be extended to all countries.

Modern constitutions acknowledge the right of citizens to a healthy and clean environment and in return impose on them a duty to protect it. A constitutional amendment of this kind was established in my country, Finland, in 1995. Already it seems to have made a difference, by successfully balancing the previously relatively unlimited rights of landowners.

It is not just governments who are realizing that they must involve citizens in making decisions on the environment through participatory reforms and more transparent administration. Companies

are also facing the pressure, as politicians have transferred many of their powers to the imperative of global markets. Even the most powerful multinationals have had to face their vulnerability to their clients and others.

The lessons that Shell learned over its plans for the disposal of the oil platform, Brent Spar, and in its relations with the Ogoni people in Nigeria seem to have had some impact on the whole oil industry. But company codes of conduct and other declarations must go beyond just words. Oil, logging and mining companies should be obliged to publish their plans for activities in faraway rainforests, and become accountable for their actions. Ethical investment funds are gaining in popularity, but the real challenge is to convert all investment funds and banks to ethical and responsible behaviour.

Competitive advantage

Market forces, however, are offering solutions as well as causing problems. As a member of the European Parliament, I have seen how a growing number of companies actually welcome strict environmental laws and rules. This is scarcely surprising, since respect for the environment is becoming a new area of competitive advantage. And why not, if a company has invented a new technology which saves not just natural resources or energy, but money too?

It all depends on the rules. Companies are not likely to protest against environmental obligations when a 'level playing field' has been established for everyone. It is a pity that political decision makers have not been able to proceed far with market instruments aiming at environmental protection, such as levies and taxes on pollution or the use of scarce resources. Introducing them would also pave the way towards creating more jobs, as the tax burden on labour could be correspondingly reduced. Some countries have taken modest steps, but they will not flourish in the absence of similar measures in other countries and regions. The ultimate aim should be to have global rules on taxing pollution and the use of non-renewable natural resources such as fossil fuels.

Many steps were taken, in the last years of the century we have just left, to integrate the concern for the environment into all aspects of decision making. But many worrying trends are still worsening. Transport as a whole has not become more sustainable, although emissions from private cars have been cut to a small fraction of what they once were. The planet's thermometre is still rising as the growth of greenhouse gas emissions continues. The number of environmental refugees has swollen, as ecological living conditions have become intolerable. If we look through green glasses, we can see that almost every development in the world has an environmental dimension.

Participation for change

How can it be that so many worrying trends have not been reversed, despite an undisputed increase in awareness? I tend to believe that any progress depends on trying to return influence and power to the people. I do not believe that people are greedy or hostile to changes in their lifestyles. Rather, I believe that most people wish to participate in such a change if their fellow citizens do so too. Thus, participation in decision making requires dialogue, often missing in our atomized communities.

Everyone must be empowered to feel that he or she can make a difference and have an influence, both locally and globally. The biggest political challenge of the 21st century is to give birth to such a decision making structure. And there should be no doubt about the need to place the environment at its very centre ■

Heidi Hautala MEP, is President of the Green European Free Alliance Group in the European Parliament. She is a former Member of the Finnish Parliament and a former Chairperson of the Green party of Finland.

Nigel Dickinson/UNEP/Topham

The Body Shop International plc

Multi-local business

ANITA RODDICK tells **Geoffrey Lean**
why she is an 'agitator and a saboteur' and explains why she believes her unorthodox approach is the shape of business to come

Consider this extract from a diary written at last year's meeting of the World Trade Organization in Seattle:

> *'Slogans and drums fill the air. Everyone reminds everyone that this is a peaceful protest and we sit down in front of the police... We don't get any warning. But we are running with the crowd, spluttering in shock as the first tear gas of the Battle of Seattle bursts into the air... I shout until I feel hoarse.'*

The account of a young, radical protester, uncompromisingly opposed to business and trade? Actually, no. The writer is the 57-year-old Chief Executive of a big multinational company, a household name, with a turnover of some $500 million a year, serving over 84 million customers, trading through 1,700 outlets in 49 countries, working in 24 languages and across 12 time zones.

Anita Roddick, the founder and guiding spirit of The Body Shop is proud to have been on the opposite side of the barricades from the other business leaders at the conference. She recalls: 'I was the only CEO in Seattle who stood up and said that we have to redefine the purpose of business, so that it is less about private greed and more about public good.'

Small and vital, speaking at tremendous speed, leaping up from her chair as we talk to pull books down off the shelves of a small room at The Body Shop's London offices, she adds: 'I believe the older you get, the more radical you become. Rabble-rousing, tree-hugging, heart-bleeding – that's the stuff I like. I am essentially an activist, an agitator and a saboteur.'

The self-described 'renegade business leader' was born Anita Lucia Perella during the Second World War in the small English seaside town of Littlehampton to Italian immigrant parents. As a result, she says, 'I was a natural outsider, and I was drawn to other outsiders and rebels.' Her schoolgirl idol was James Dean.

Her 'strong sense of moral outrage' was 'kick-started' at the age of ten when she read a book about the Holocaust, and was reinforced by 'the most amazing teachers' at her convent school. She particularly remembers a Sister Immaculate Conception, who devoted a part of the convent to tramps, who she named 'knights of the road', encouraging the pupils to look after them.

She trained as a teacher herself, but then won a scholarship to work on a kibbutz, where she 'learned a love of community'. The visit turned into an extended working trip around the world during which she 'spent time in farming and fishing communities with pre-industrial peoples'.

After teaching – and spending some time in the Women's Rights Department of the International Labour Organisation – she opened first a restaurant and then a hotel in Littlehampton with her husband, Gordon. She started the first Body Shop in Brighton in 1976, picking the distinctive dark green colour – by which the firm has become known all over the world – because it was the only one that would cover its damp, mouldy walls.

'Frugality' led her to become green in other ways too. 'It was all about lack of resources. Absolutely unheard of in the cosmetics industry, I found the cheapest little urine sample bottles for my products. I could only afford 700 of them, so I was asking everyone from Day One to bring them back for refilling. We re-used everything, we refilled everything, and we recycled all we could.'

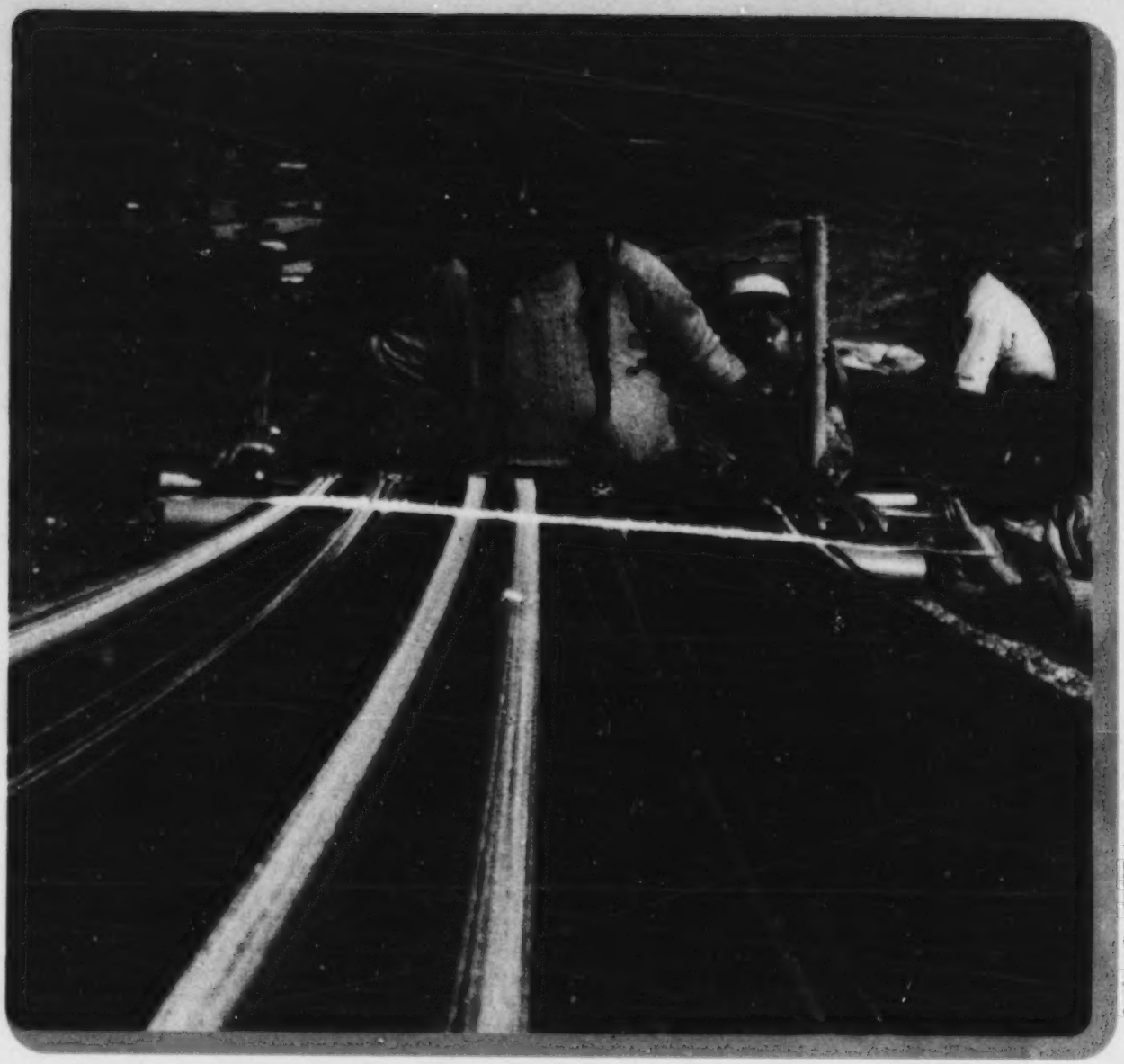
Environmental battle

It worked. She opened her second shop within six months and, with her husband, started the franchise network which spread The Body Shop around the world. The firm went public in 1984, by when it had already fought its first environmental battle, a Save the Whale campaign with Greenpeace.

The campaigns have continued ever since, on the environment and human rights, in support of prisoners of conscience and, most famously, the Movement for the Survival of the Ogoni People. 'We are a campaigning company,' she says. 'It is our DNA. We want to improve the quality of life for living creatures around the globe. And we'll agitate, manipulate, stir, and take advantage of situations to achieve our end.'

The company, with the support of its franchisees, has

'The idea that business is responsible only to its shareholders mortifies me...'



Jean Jaques Cranca/UNEP/Topham

turned its shops into 'action stations' providing customers with information on the current campaign, and installing fax machines so that they can send their own messages to its targets.

There is a cost, however. 'Every time we run a major campaign on human rights there is a major dip in sales because we are asking people to commit themselves to being active rather than to buying a product. That's why there is all the difference in the world between using business as an agent of change, and the cynical exploitation of issues for sales.'

If all this sounds more like a non-governmental organization (NGO) than a business, Anita Roddick does not apologize for it. She describes The Body Shop as 'part of the social responsibility movement'.

She, and other business people in the movement, she says, 'were entrepreneurs who, with the zealousness of a convert, saw that business was not just financial science, where profit was the sole arbiter; it was more about participating in political and social activism, using products as emissaries for social change, or stores for leveraging their customers on social action.'

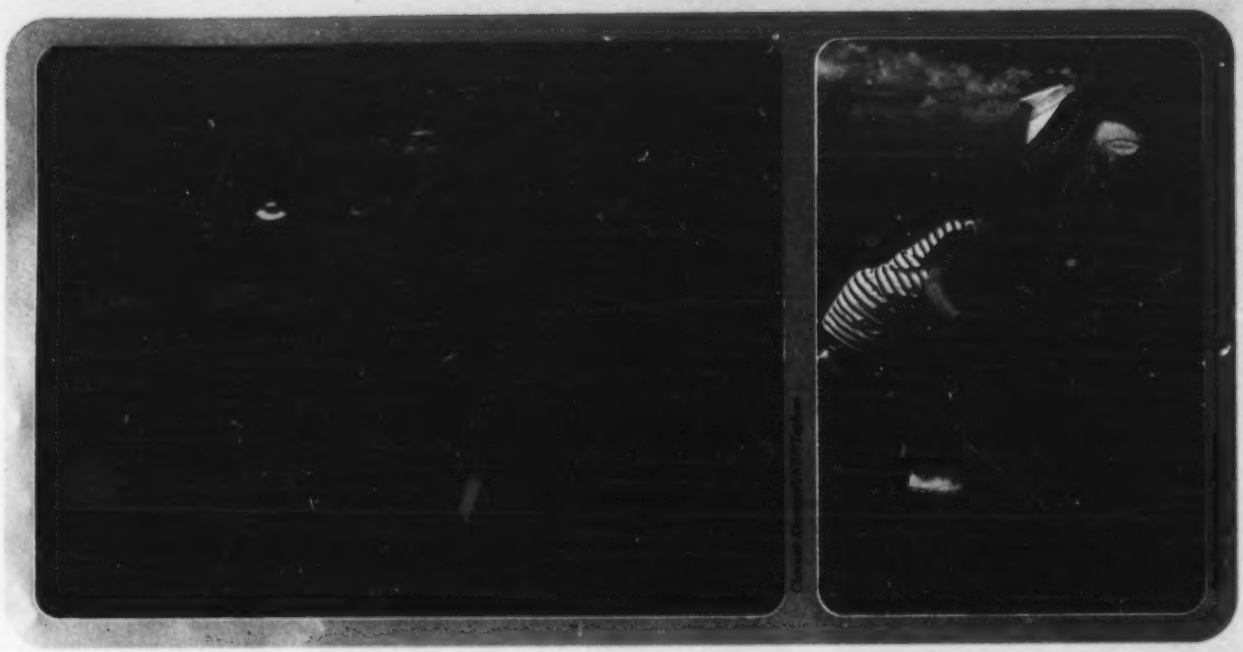
She admits that her approach 'polarizes' opinion. 'Because you are not behaving in a way that is appropriate for a CEO or head of a company and are acting more like an NGO or a not-for-profit organization, you are challenging everything that is a comfort zone. But who has the right to tell me that my entire business should be just the maximizing of shareholder profit?'

Affecting millions

'The idea that business is responsible only to its shareholders mortifies me with its narrowness. How can we pretend any longer that business is only about economics when it has so obviously become the dominant socio-political force on the planet?

'Because everything we do in business affects millions, and because business is now centre stage, wealthy and more powerful than governments, God help us all if it fails to show a moral sympathy or an honourable code of behaviour.

'Businesses are not found in nature, they are made by you and me, and so we can change the function of them. Business has to be a force for social change. I can imagine ▶



a day will come when compassion counts as much as cash flow.'

The same goes for trade, she adds. 'Free trade was originally about the freedom of communities to trade equally with each other. It was never intended to be what it is today – a licence for the big, the powerful and the rich to ride roughshod over the small, the weak and the poor. It is not trade that we are against; it is exploitation and unchecked power.

'Globalization gives us a world whose nations are more and more reluctant to go to war with each other because they have too much at stake in each other's economy, a world where human rights are supposed to follow increasing prosperity. All we need to do to make this dream come true, we are told, is to make sure that people, organizations and governments get out of the way of the multinational corporations who are trying to make it all happen for the good of all people.

'But I spend much of every year travelling around the world, talking to people in the front line of globalization: women, community farmers, children. I see the other side of it: poverty; forced labour; sweatshops; children forced to work long hours; the poisoning of water, air and land; the dislocation of communities; gross inequalities of wealth.'

Internationalism, she says, is the opposite. 'It means that we can link together at the local level around the world and use our power as consumers to change business. Even more important, it means that we can start understanding each other in a way that no generation has managed before.'

Anita Roddick likes to call The Body Shop a 'multi-local business' and describes how it trades directly with 38 'communities in need' in 21 countries. Since 1987, for example, it has been buying wooden massagers from Tamil Nadu in India; the order has now grown from an initial 2,000 foot rollers spread over six months to nearly 50,000 of them a month, along with 20 other products.

The firm it now deals with, Teddy Exports, employs some 500 people, mostly women, and mostly also formerly casual, unskilled agricultural labourers. A trust runs a primary school, health workshops so far attended by over 3,500 people, and an AIDS awareness campaign cited as a model for the rest of the country.

It gets babbasu palm oil from a cooperative supporting 12 communities in northeast Brazil, buys shea butter from a cooperative in northern Ghana made up of women from 13 villages, gives a livelihood to Indian women in Mexico who make body scrubs from cacti using an ancient Aztec technique, and has set up a soap factory in a deprived area of Glasgow.

She says: 'I hope we can measure our success by our ability to show just what's possible if a company genuinely opens a dialogue with communities. I would rather we be measured by how we treat the weaker and frailer communities we trade with, than only by how great are our profits.'

Unstoppable

It is unorthodox, but Anita Roddick firmly believes it is the shape of business to come. She says that 'more customers are actively choosing to buy from companies that believe in the same things as they do,' and talks of a major new element in business, 'the rise of the vigilante consumer, who is becoming more and more powerful as governments are getting less and less so. We are seeing for the first time a grassroots public debate about the behaviour of corporation and business.'

She certainly intends to be part of it, citing a favourite saying: 'A woman in advancing old age is unstoppable by any Earthly force.' And she adds: 'If the progressive nature of this company gets watered down, I am out of it like a bat out of hell. I don't want to spend my life looking at bloody moisture creams.' ■

WATER

Humanity's use of freshwater soared sixfold over the last century, and continues to rise. Demand is expected to increase by over a third over the next 25 years – and to almost double for drinking water. And yet it is getting scarcer. Already one-third of the world's people live in countries where water is in short supply; by 2025 two-thirds of them will do so. About one in every five people on Earth now lacks safe drinking water.

Acquifers of underground water, built up over millennia, are being exploited faster than they can be replenished; every year 160 billion tonnes of water are being 'mined' in this way in China, India, North Africa, Saudi Arabia and the United States alone. The water table under the north China plain, which produces 40 per cent of the country's grain harvest, is falling by 1.6 metres a year, while the International Water Management Institute estimates that the depletion of Indian acquifers could cut the country's grain harvest by a quarter. Meanwhile international tensions over shared rivers are rising, threatening water wars.

SPECIES

Species are being driven to extinction at least 1,000 times – and maybe 10,000 times – faster than they would die out naturally. No-one knows how much damage is being done, partly because no-one even knows how many species there are on Earth; estimates range from 5 million to over 100 million. But the damage is clearly accelerating. By one estimate up to two-thirds of all the species on the planet may be lost over the next 100 years. The world appears to be in the early stages of a mass extinction, to rival those of prehistoric times, the latest of which wiped out the dinosaurs. Great holes will be torn in the web of life, and countless species that could have brought great benefits to medicine and food supplies will be lost. On past evidence it will take 10 million years – far longer than the expected lifespan of the human species – for the planet's life to recover its diversity.

FORESTS

Four-fifths of the forests that originally cloaked the Earth have been cleared, fragmented or otherwise degraded. About 40 per cent of what is left is under threat. Some 16 million hectares of forest, an area about twice the size of Austria, are felled every year. As the trees disappear, the rainwater rushes off the land, stripping away topsoil and causing floods; it fails to percolate into the ground, causing water sources to dry up. Species become extinct, and global warming increases.

UNEP 2000

SOIL

It can take anything up to 1,000 years for a couple of centimetres of topsoil to form. But increasingly this much is being washed or blown away in a few seasons. Every year the world loses some 25 billion tonnes of it. Some 2 billion hectares of arable and grazing land worldwide – an area larger than the United States and Mexico combined – have been moderately or severely degraded, reducing its ability to produce food. Desertification costs the world $42 billion a year in lost income and soil erosion puts the livelihoods of nearly a billion people at risk. By one estimate, crop yields in Africa could be cut in half within 40 years if degradation continues at its present rate.

CLIMATE

The climate is getting warmer. Eight of the hottest ten years on record occurred in the last decade. Glaciers are smaller than at any time in at least 5,000 years, and the Arctic Ocean has lost 40 per cent of its ice cover in the last 30 years. Meanwhile, economic damage from disasters caused by extreme weather in 1998 alone exceeded the total for the whole of the 1980s.

The WMO/UNEP Intergovernmental Panel on Climate Change (IPCC) has concluded that, on balance, human activities are contributing to global warming, as greenhouse gases like carbon dioxide (CO_2) are emitted and forests are felled. CO_2 is now at record levels in the atmosphere. The IPCC's best prediction is that global temperatures will rise by 2 C over this century – the greatest warming in 10,000 years – while sea levels will rise by 50 centimetres, enough to flood millions of people in low-lying deltas and coastal areas and to submerge some island nations beneath the waves. Such is the inertia in the world's system that once global warming has begun, it will be very hard to stop on any reasonable time scale.

WASTE

Many countries have tackled the grossest forms of pollution over the last half century. Rivers have been cleaned up and skies cleared, particularly in developed countries. But 5 million of the world's poorest people die each year from diarrhoeal diseases, largely because they lack safe water, and another 2.2 million die of respiratory conditions through burning smokey fuels in their homes. Meanwhile newer forms of pollution, such as persistent organic pollutants (which concentrate up the food chain and can have severe health effects) and endocrine disrupters (which interfere with the hormone system) are causing increasing concern.

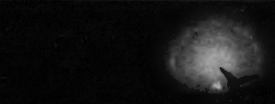
Geoffrey Lean

UNEP

UNEP is the advocate for environmental concerns within the international system. It raises awareness of environmental issues and catalyses action to tackle them, builds partnerships with other United Nations bodies and works with civil society – the private sector, the scientific community, non-governmental organizations, youth, women and sports organizations – to achieve sustainable development. Its mission is: 'to provide leadership and encourage partnerships in caring for the environment by inspiring, informing and enabling nations and people to improve their quality of life without compromising that of future generations.'

Its main areas of concentration include: environmental monitoring, assessment, information and research, including early warning of threats; the enhanced coordination of environmental conventions and the development of environment policy instruments; freshwater; technology transfer and industry; and support to Africa.

Little over a quarter of a century old, UNEP can claim to have already played an important role in tackling and reversing environmental destruction. For example:



■ It was the driving force behind the Montreal Protocol, which has caused a drop of over 75 per cent in the use of chemicals that deplete the Earth's vital ozone layer, and is on the way to phasing them out altogether. As a result an estimated 1.5 million cases of melanoma skin cancer will be averted over the next 60 years.

■ It is the leading force in reducing and eliminating the risks posed by hazardous wastes worldwide, and ensuring that they are properly managed. With the Food and Agriculture Organization (FAO), it negotiated the Basel Convention to regulate trade in them, and it is currently managing negotiations on a new treaty on persistent organic pollutants. Cooperation between FAO and UNEP has also brought about the Rotterdam Convention, covering the growing trade in hazardous pesticides and chemicals.

■ It forged the Convention on Biological Diversity whose Parties have just agreed a Protocol on Biosafety and manages the Convention on International Trade in Endangered Species, which helps protect over 35,000 of the world's endangered species, and has helped bring the elephant back from the brink of extinction.

■ It has pioneered the drive towards cleaner production, to improve efficiency and prevent environmental damage by industry, and last year launched the Declaration on Cleaner Production.

■ Together with the World Meteorological Organization, it has played a central role in the world's efforts to combat climate change, including the Kyoto Protocol agreed in 1998.

WIN A COPY OF *GEO 2000*

Answer three questions (you can find them in the *UNEP 2000* section of this *Our Planet*) and tell us in not more than fifteen words what positive action we should all take to help the environment.

1. How many million cases of skin cancer will be averted over the next 60 years as a result of the Montreal Protocol? *About.....million*

2. How many species does the Convention on International Trade in Endangered Species help protect? .....

3. After which Dutch town is the convention covering the growing trade in hazardous chemicals and pesticides named? .....

'I believe it would help the environment if we all.....

.....

.....

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My name .....

My address .....

.....

.....

Ten prize winners will each receive a copy of ***Global Environment Outlook 2000*** published by UNEP.

Entries must be received by SMI, PO Box 119, Pin Green, Stevenage, Hertfordshire SG1 4TP, UK, or wed@ourplanet.com no later than **5 September 2000**.

The winner and runners up will be chosen by a panel consisting of UNEP's Executive Director, its Director of Information, and the Editor of *Our Planet* from the entries received. The decision of the judges is final. This competition is closed to all those working for UNEP, Banson, KPC Group, SMI, and all other companies and organizations associated with the production of *Our Planet* magazine and their families. A full set of rules is available on application from wed@ourplanet.com

The winners of the second *Our Planet* competition, on the 10 Most Hazardous Wastes, were Eu Lede Camargo, from Brazil; Apinya Sompeth, Ayyuthia, Kuan Thailand; and Valentine Nyambi, from Cameroon. Second prizes went to Fiona A. Reed from the United States of America; Letlotlo Agatha Qoo, from Mexico; and Hantsoa Zo Razafindrabe, from Madagascar.

Thomas Raupac/Still Pictures

The greening of **Goliath**

TOM BURKE outlines how business needs to change to tackle the environmental agenda of the new century

One of the more memorable pictures of the last part of the 20th century was of Shell tugboats shooting water cannon at a Greenpeace helicopter attempting to land environmental activists on the deck of their oil storage platform, the Brent Spar. This one striking image from 1996 captured not just the tussle over whether the platform should be disposed of at sea, but the whole protean struggle between corporate Goliaths and environmental Davids to prevent pollution.

There is a comfortable clarity to this picture of the battle for the environment as a mortal combat between the big battalions of business and green raiders – with government as a somewhat bemused referee tilting decisions sometimes to one side, sometimes to the other. But this comfort is illusory. The true picture of the politics of the environment is somewhat more complex.

It is just 30 years since the appointment of the world's first ever environment minister. Since then, a familiar agenda of issues has become the stock-in-trade of environmental policy: air and water quality, toxic chemicals, wastes and recycling, noise and nuisances, radioactivity. These pollution issues dominated the 20th century debate between government, business and the environmental organizations and led to great battles over acid rain, vehicle emissions, hazardous wastes, sewage disposal and much else.

Politically, these issues were straightforward. With rivers catching fire or deep in foam, and children playing among drums of cyanide waste on uncontrolled dump sites, it was clear to everyone that something needed to be done. Furthermore, it was pretty obvious what should be done – the industrial activities that caused the problems should be prohibited or controlled by government regulations.

Most of this agenda was driven politically by concern over human – and especially children's – health and the issues were frequently highly emotionally charged. Clear villains and victims guaranteed them a high media profile. Both the political and substantive rewards for action were rapid and often very visible, and there were many more winners than losers.

Initially, business responded badly to the emergence of pollution as a major issue. Its instinct was first to ignore the problems, then to minimize their seriousness, and then to exaggerate the cost of dealing with them. Only reluctantly did it begin to address them ▶

Fritz Polking/Still Pictures

systematically, discovering, much to its surprise, that in very many cases cutting pollution also cut costs.

During the last quarter of the century the efforts of business to deal with pollution and waste issues gradually accelerated. Companies saw them as essentially technical issues and linked them to health and safety, often developing integrated management systems to pursue continuous improvement in their environmental performance. By the century's end, managers in many companies in the developed world – and growing numbers in the developing world – accepted the need to manage the environment effectively as a core competence.

Companies must learn to treat the environment as a business issue, not just as a technical one

Trust deficit

But the initial reluctance to act cost the corporate world dear, legitimizing the widely held view that business is anti-environmental and creating a growing deficit of trust with the public. This, in turn, has weakened industry's response to increasing challenges to its licence to operate and to greater difficulty in gaining access to resources and markets. Despite consistent recent improvements in performance, the public everywhere does not trust business with the environment. This will matter even more in the coming century.

As we enter the 21st century a different agenda is coming to dominate the environmental debate – not instead of the familiar one, but in addition to it. Its issues are climate change, biodiversity, soil erosion, fish stocks, forest loss, biotechnology. Water is still on this agenda but now as more of an issue of quantity than quality. These environmental resource issues are both much more serious than the old pollution ones and much more difficult to address.

For a start, the need for action is not so obvious. Even though there are now fewer critical challenges to the underlying science of climate change, the major impacts of global warming are not yet unambiguously visible. Fishermen consistently argue that fears for fish stocks are unfounded. And the real significance of the ever faster loss of forests or biodiversity is not immediately apparent to everyone.

It is also much less obvious what should be done: you cannot simply ban people from driving cars or cutting down trees. This limits the scope of what government regulations can do. It is clear that, at least initially, almost anything done will create more losers than winners. The political drive to act is also weaker. Resource issues are far less highly charged than health ones, and much less media friendly. Clear villains and victims are far harder to find. Multinational corporations make convenient scapegoats, but they only exist because we all continue to buy their products. In any case, many of the most destructive uses of resources are by people so poor they have no alternative.

For the business world, the emergence of the sustainable development agenda presents new challenges. As governments adopt policies to address these issues, the impacts on business will affect much more than the cost of getting goods and services into markets. If you set out, as the British Government has done, to break the link between increasing real incomes and rising vehicle use, you will alter the structure of the market for fuels and vehicles. If you decide to de-intensify agriculture in Europe or North America, you will similarly alter the structure of the markets for agricultural chemicals and machinery. Even the early efforts to combat climate change are already having a profound effect on the structure of energy markets.

Key strategy

This will require companies to learn to treat the environment as a business issue, not just as a technical one. Many of the better companies have now developed systems to incorporate the environment into the way they manage their operations day by day. But very few have yet developed methods to incorporate the environment into the development and implementation of their business strategy. The ability to do so will be a key source of strategic competitive advantage for 21st century businesses.

In the 20th century, the business case to society was simply that what it did was legal and profitable. At the time that was adequate, if hardly inspirational. It will not be so for the 21st century. At a minimum, the case will have to be that what it does is legal, profitable, and socially and environmentally responsible. It will be better for a business to have the ability to make a well thought-out case for its contribution to the transition we must all make to sustainable development ■

Tom Burke is Environmental Policy Advisor to Rio Tinto plc and BP Amoco plc and Visiting Professor at Imperial College, London.

Rolf Blum/UNEP/Topham

UNEP/Topham

UNFAIR TRADE

RICARDO A. NAVARRO argues that, through trade, the North has built up an ecological debt with the South

Trade is, in essence, the collection of vessels through which a country's blood flows. Countries – and companies – must buy and sell if they are to function well. For many centuries, people and regions have exchanged products such as salt, spices, fabrics, medicines and precious metals with their neighbours. Trade has long stemmed from the needs – or wishes – of people to acquire goods and services they cannot produce or create themselves and for which they are prepared to give something in return.

As people became more efficient at exploiting natural resources – and their scientific and technological knowledge increased – they created an excess of goods and services. These had to be marketed without delay. The inventions of currency and, much later, of electronic communications, both caused trade to grow exponentially. If genuine needs for products did not produce sufficiently high demand, new needs had to be created, and fast.

Now the promotion of free trade has almost become a religion, for both people and countries. Anyone or anything that gets in the way of trade, or appears to do so, must be demonized and overcome, even if the result is the destruction of a water source or the disappearance of a culture. International politics is largely defined on the basis of countries' capacity to buy or sell: this explains some of the international decisions concerning countries which are important traders in oil or vehicles.

Limits of nature

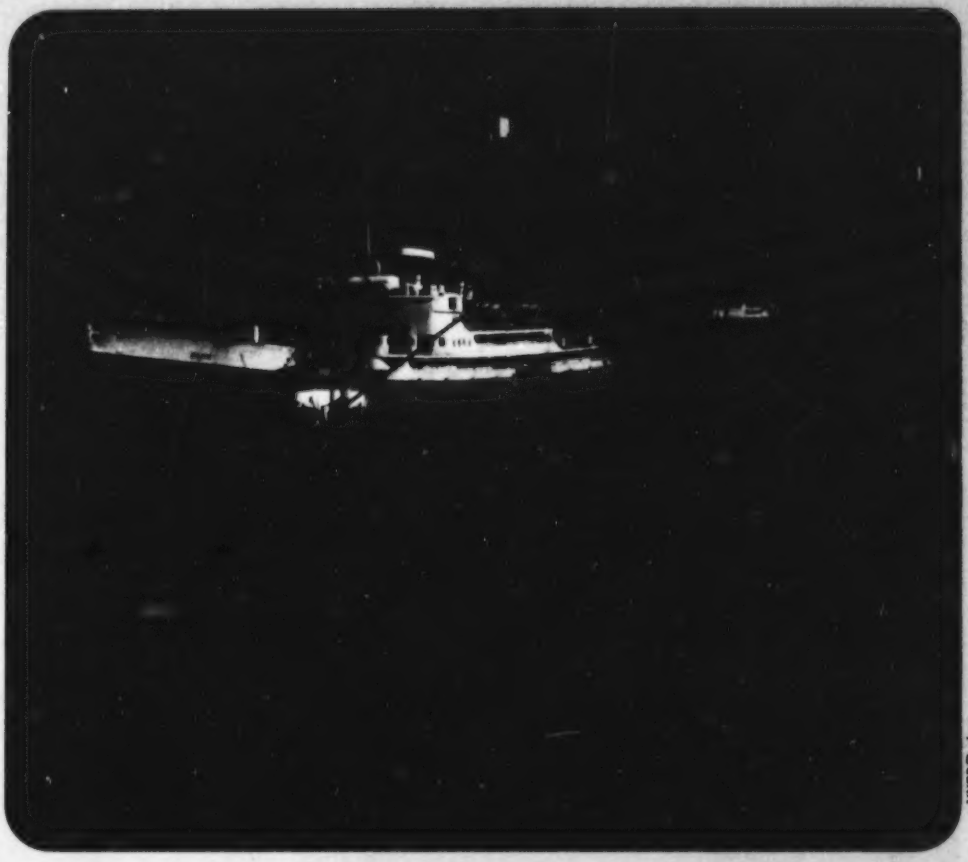
Trade jeopardises the environment because it has become self-governing. Trade no longer responds to the needs of people or countries, but rather to the very need for trade. We no longer trade to live, we live to trade. This means that trade is governed by its own logic, which, among other things, requires generating more wealth through exploiting more natural resources. This has resulted in rivalry over the consumption of resources, with no respect or consideration for nature's limits.

Much trade involves generating waste or plundering resources. The final result of trade in oil, for example, is increased levels of carbon dioxide in the atmosphere. Environmental problems arise when the logic that governs trade – constantly requiring resources in ever growing quantities and generating similarly exponentially increasing amounts of waste – clashes with the logic that governs nature – which limits resource use and waste generation. In many cases this natural limit is exceeded, as with emissions of carbon dioxide, largely responsible for the change that is taking place in the Earth's climate.

It is not just that frenetic trade is causing environmental deterioration. There is also a question of justice. The impact of the deterioration is shared neither equally nor fairly. For ▸

example, oil consumption reflects economic power. Those who have more, consume more; and those who have more belong to the northern hemisphere and to the middle and upper classes of the southern hemisphere.

However, the pollution generated by the consumption of oil does not just affect those who consume the fuel. Instead it is distributed almost equally in the atmosphere on which we all depend. The same is true of the many pollutants that end up in the sea. So those who have not benefited from consuming resources feel the impact of the wastes that result. Over time, this has caused a debt between those who consume more and those who consume less. It could be said that the North is indebted, in ecological terms, to the South.



UNEP/Topham

Those who have not benefited from consuming resources feel the impact of the wastes that result

This debt does not just involve the misappropriation of 'space' in the atmosphere that belongs to us all by disproportionate pollution by the minority of the world's people. It also encompasses the harmful effects that result from these emissions. We know, for example, that global warming has caused an increase in the number and severity of floods, droughts and other consequences of extreme weather. We also know the effects these have had, including the loss of human life, and where they have occurred. So, we could say in general terms that some people in the world, who mainly live in the North, use cars and consume petrol, and others, mainly in the South, suffer floods and death as a result. This was the case with the hurricanes and floods that affected Central America, Venezuela, Bangladesh and Mozambique.

Shared living standards

The terms North and South, it must be said, are not just geographical ones; they cover economic, social and political factors as well. Thus the North includes not just developed, mainly northern countries, but also the middle and upper classes of developing countries, who share the same standards of living. Equally, the South includes people who have difficulty meeting their basic needs despite living in northern countries.

Nor is trade free or fair. Economically powerful countries can modify the rules as they choose, and widen the economic and social gaps both between and within nations. In doing so, they contribute to the plundering of nature, since both extreme wealth and extreme poverty put the ecological balance at risk.

If trade is to be acceptable, it must be environmentally rational and socially fair. This means not only that we must stay within the limits of nature, but that the North must also avoid continuing to run up an ecological debt with the South. We at Friends of the Earth International and our associations express the need to find ecological justice and rationality through the concept of Environmental Space. This means that all of us on Earth have the same right – or should do – to the same 'space' from which we can use resources and to which we can send wastes.

There is, in other words, no reason why a person in the United States of America or Japan should consume much more energy or water, or generate more waste, than a person in Bangladesh or Haiti. After all, we are all made the same way ■

Dr. Ricardo A. Navarro is Chairman of Friends of the Earth International.

No sleeping *after Seattle*

CHEE YOKE LING says that civil society must build on recent successes to meet the coming environmental challenges

Civil society took its first step into global environmental politics at the Earth Summit in Rio in 1992. At Seattle last year it marched against the effects of globalization epitomized by the World Trade Organization (WTO). In the intervening decade, civil society organizations (CSOs) gained tremendous experience, channelled their increased professionalism more effectively, and networked faster and better through the Internet.

They successfully integrated environment and development, in the context of North-South equity, during the Rio process. The unprecedented convergence of so many groups and movements in Seattle also linked environmental, social, economic and democracy issues. And they have increasingly recognized the importance of both negotiating within the system and taking direct action outside it to influence decision making.

Civil society's participation, facilitated by increasing access, contributed to the more holistic Rio agreements and empowered it to play a global advocacy role. Subsequent United Nations conferences and the work of commissions, such as the Commission on Sustainable Development, and the implementation of United Nations conventions and – multilateral environmental agreements (MEAs) – have continued to open up the process to CSOs, and helped improve relations between them and many governments, especially in the South.

Fundamental issues

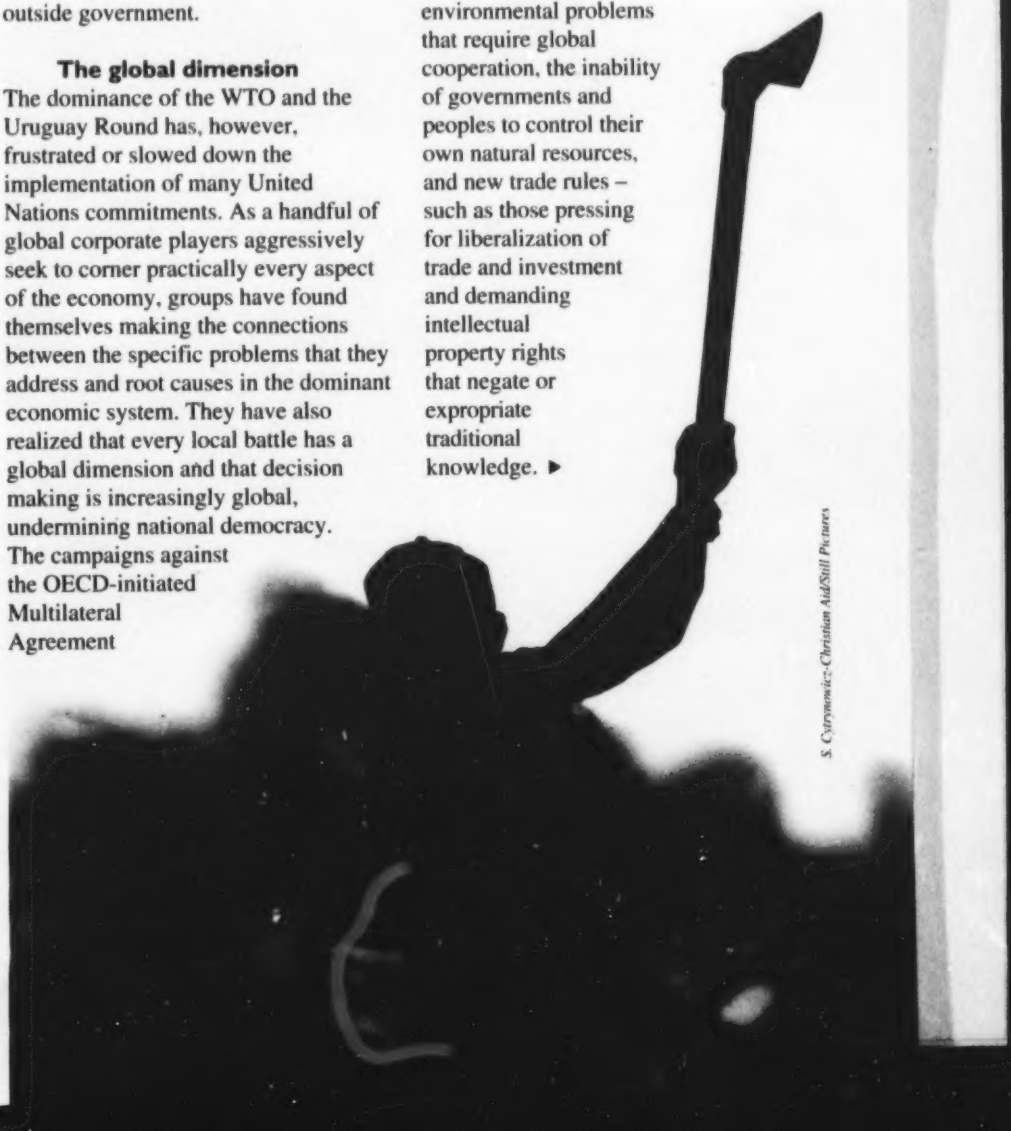
Implementing the Framework Convention on Climate Change and the Convention on Biological Diversity, for example, have thrown up fundamental issues – including the need to reconcile environmental imperatives with the South's requirements for development, the need to adjust Northern production and consumption, and the need to drastically trim increasing corporate power. Pressure has begun to shift from emphasis on privatization and markets to greater public control and accountability over natural resource use and social goals. CSOs are therefore challenged to present complex analyses, to combine intellectual contributions with hands-on experience in national policy and intergovernmental negotiations, and to strengthen alliances amongst like-minded people both inside and outside government.

The global dimension

The dominance of the WTO and the Uruguay Round has, however, frustrated or slowed down the implementation of many United Nations commitments. As a handful of global corporate players aggressively seek to corner practically every aspect of the economy, groups have found themselves making the connections between the specific problems that they address and root causes in the dominant economic system. They have also realized that every local battle has a global dimension and that decision making is increasingly global, undermining national democracy. The campaigns against the OECD-initiated Multilateral Agreement on Investment (MAI) and the 'New Round' campaign at the WTO were therefore as much a fight for democracy as one against economic rules that threaten society and the environment.

CSOs have found the Internet to be vital. By using it, a few Northern and Southern groups galvanized a major public campaign against the MAI in a mere six months. Similarly, in less than a year leading up to the Seattle conference, they alerted many others to the dangers posed by the proposed new round of negotiations.

Southern governments were vocal at Seattle, and are increasingly becoming so in many other United Nations and regional fora. They are concerned that globalization is benefiting only some people and deepening inequities both within nations and worldwide. Sustainable development goals are being undermined by the continuing debt burden, threats to food security, mounting environmental problems that require global cooperation, the inability of governments and peoples to control their own natural resources, and new trade rules – such as those pressing for liberalization of trade and investment and demanding intellectual property rights that negate or expropriate traditional knowledge. ▶



S. Cytrynowicz-Christian Aid/Still Pictures

Civil society can have a central role in shaping the future environment and development agenda

Meanwhile the analyses of many CSOs, especially those bringing perspectives from the South, provided a significant intellectual contribution to their street actions and messages to governments, corporations and global institutions. The mainstream media may have focused on the protests over labour issues, and over conserving turtles and dolphins, but there were many workshops and demonstrations on Third World debt, genetically engineered organisms and foods, intellectual property rights, food security and the rights of indigenous peoples and local communities.

Civil society also helped bring about the recently concluded Cartagena Protocol on Biosafety. A group of CSOs and independent scientists worked closely with a strong coalition of officials from Southern governments and European environment ministries. During the negotiations – helped by public awareness and the exposure both of the potential hazards and of the tactics of some companies – they defeated a handful of major corporations, backed by a few powerful governments. The Protocol may have its shortcomings, but it is nevertheless the first international legal agreement to regulate a powerful global industry.

Increasing transparency

CSOs must continue to monitor developments in global institutions, and in the key OECD countries which usually determine the global agenda. Greater transparency (itself a result of CSO pressure) is making more information available, as are alliances with people in national governments, the United Nations and the Bretton Woods bodies. Groups and individual people are becoming increasingly good at analysing information, proposals and the agendas of key corporations and governments so as to work out their implications for society: they can then present their suggestions, positions and demands. The involvement of more Southern groups, providing analyses and proposals from the realities of their own societies, has enriched the global debate and helped many developing country governments in international negotiations. More of this is needed.

CSOs, of course, differ over issues of substance, message and approach: there is, for example, an argument over whether governments should use unilateral trade measures to protect endangered species and the environment. There needs to be more dialogue, especially between Northern and Southern groups, to share knowledge and viewpoints, reach better understanding and formulate mutually supportive positions. The capacity of Southern CSOs to obtain and assess information, to take part in international events and campaigns, and to lobby their governments must be increased.

Demi Ivo/UNEP/Topham

Universal ownership

Many CSOs, especially from the South, believe that reforming the WTO and the Bretton Woods system is paramount. Instead of further empowering the WTO, the United Nations system must be strengthened, and the MEAs given their due place and authority. The more democratic, transparent – though sometimes slower – United Nations processes would forge agreements and programmes that are of universal ownership.

If it builds on the developments over the last few years, civil society can have a central role in shaping the future environment and development agenda, in a spirit of renewed North-South solidarity ■

Chee Yoke Ling is the legal advisor of Third World Network.

Disproportionate effects

Hartmut Schwarzbach/UNEP/Topham

KRISTALINA GEORGIEVA
describes how the poor are the main victims of environmental degradation

Benjamin Lang/UNEP/Topham

There is compelling evidence that environmental and natural resource issues must be addressed as part of any successful effort to eliminate global poverty. The links between them and poverty are particularly vivid in the devastating toll that environmental degradation takes on human health, the dependence of the poor on natural resources, and their vulnerability to natural disasters and climate change. Poor people are well aware of these threats, as interviews with the poor in over 70 developing countries have shown.

The roughly 2.8 billion of the world's people who live on less than $2 per day are disproportionately affected by bad environmental conditions. They suffer most from the health effects of environmental factors such as dirty water, polluted air, poor sanitation and hazardous waste. Every year, between 5 and 6 million people die in developing countries from water-borne diseases and air pollution.

Premature death and illness caused by environmental health risks account for one-fifth of all disease in the developing world, more than the 15 per cent due to malnutrition, and greater than all other preventable risk factors and groups of disease. Diseases associated with environmental factors are highly concentrated among the poor. Around 60 per cent of all malaria deaths, and half of all fatalities from diarrhoea, for example, occur among the poorest 20 per cent of the world's people. Can anything be done to reduce these risks? In sub-Saharan Africa, improved water and sanitation, cleaner household energy, better housing, vector control, and pollution management can reduce the total burden of disease by an estimated 23 to 29 per cent. And interventions in health care aimed at the diseases linked to environmental factors – such as diarrhoea, respiratory symptoms, eye diseases, and malaria – can cut it by a further 23 to 28 per cent.

Poor people, particularly those living in rural areas, also depend on natural resources such as water, soil and fisheries for subsistence and income. Yet environmental factors are seriously undermining the ability of the poor to wrest a living from natural resources.

Livelihoods at risk

Soil degradation, for example, now affects an estimated 65 per cent of cropland area in Africa, 51 per cent in Latin America, and 38 per cent in Asia. The livelihoods of more than a billion rural people are at risk as a result of desertification and dryland degradation. Water scarcity is a serious problem in many parts of the world; many countries are already consuming more than 100 per cent of their renewable water resources. Similarly, nearly 3 billion people depend on wood for household heating and cooking, yet many countries face a widening gap between their needs for fuelwood and sustainable supplies of it.

The links between poverty and the management of natural resources are complex and vary among regions and locations. Common concerns include property rights, incentives and institutions, and empowerment.

Communities often lack control over natural resources; the central government may own the forest, for instance, or prohibit harvesting of wildlife. Under these circumstances, the local community has no incentive to manage natural resources sustainably. ▸

> ***"During the dry season, from August to January when the springs become dry, we have to walk 2 kilometres to Kishimbo to get water. When we reach there, we find that there are so many people lined up for water, it takes six hours to get one bucket."***
>
> Oldadai, Arusha, United Republic of Tanzania

Empowering them by granting them secure rights to use natural resources can dramatically improve incentives for sustainable management. Programmes such as CAMPFIRE in Zimbabwe – where communities were granted rights to harvest and manage wildlife for tourism – have been notably successful both in reducing poverty and in conserving the environment.

The poor are particularly vulnerable to shocks from environmental change and natural catastrophes – such as floods, storms, droughts and landslides – and they are also disproportionately affected by them. They tend to live in precarious housing, often located in environmentally vulnerable areas such as flood plains or steep slopes, putting them at greater risk from natural disasters and severe weather.

They also have less capacity to cope with disasters when they occur. It is much harder for them get to credit than better-off households, and they have fewer assets to sell or consume in times of hardship. So the disasters often have catastrophic effects on the poor.

Immense costs

The costs of natural disasters are immense. The 1997-1998 El Niño and Southern Oscillation event was directly responsible for 22 disasters that required international assistance; total costs were estimated at $25 to $36 billion.

Many countries are beginning to address the risks that disasters pose. In the Eastern Caribbean states of St. Kitts and Nevis, Dominica and St. Lucia, a programme is under way to construct physical protection, to improve planning for disasters, and conduct training at the community level. In the Dominican Republic, which was hit hard by Hurricane George in 1998, a programme is under way that would improve the country's capacity to identify vulnerable areas, prepare national and community disaster plans, receive and disseminate early warnings, and adopt and enforce standards and codes to mitigate risks ■

Kristalina Georgieva is Director of the Environment Department at The World Bank.

> *"Sometimes... the water is brown. We call it tea, but we drink it anyway."*
>
> Southwest Province, Cameroon

> *"The consumption level of a poor household drops by fifty per cent in the wake of droughts... The women are expected to take their meals only after others in the household have finished eating. More often than not... women are left with practically nothing to eat."*
>
> Bolangir, India

Quotes from people interviewed in *Voices of the Poor: Can Anyone Hear Us?*, by Deepa Narayan with Raj Patel, Kai Schafft, Anne Rademacher and Sarah Koch-Schulte, and published by Oxford University Press for The World Bank. Copies are available (price: US$25) from:
The World Bank, 1818 H Street, Washington DC, United States of America.
E-mail: books@worldbank.org

Liberal rations

ROBERT L. THOMPSON, MERLINDA INGCO and **LYNN R. BROWN** say that developing countries must devote more attention to agriculture, and the whole world must liberalize its markets, if a growing population is be fed in the new century

There are 1.2 billion people in the world who live on less than $1 per day. Around 800 million go to bed hungry every night, one-third of all pre-school children are clinically malnourished, and 2 billion people are deficient in one or more micronutrients such as iron, vitamin A and zinc. The bottom line of these abject statistics is that more than 6 million children a year die of causes related to malnutrition.

Yet between 1960 and 1990, world cereal production more than doubled, per capita food production increased 37 per cent, daily caloric intake increased 35 per cent, and real food prices fell by almost 50 per cent. Today world food prices are at historic lows.

How do these two sets of apparently paradoxical statistics exist side by side?

Food security is achieved when everyone has sufficient food to sustain a healthy and active life. For nations this is the result of producing enough food domestically and/or importing it. For households, it comes from producing enough and/or having the income to buy food. For individuals, it is determined by how food is shared within the household. Except in time of war, natural disaster or politically imposed famine, food security is now a problem for the poor. The rich do not go to bed hungry at night.

Poverty is largely a rural problem, although urban poverty is growing: most of the poor are farmers. Solving it, therefore, requires broad-based agricultural and economic development to empower several hundreds of millions of low-income people with enough purchasing power to improve the quality both of their diets and of their lives in general.

Reducing poverty

Experience in recent decades has shown that the market-driven approach to development, maintaining an open economy, has been the most effective one for reducing poverty. It has been much more so than a protectionist approach concentrating on import substitution. Agriculture is both the engine of growth for many developing countries, and the sector where they could compete, with comparative advantage, in a fair global trading system.

Priming the pump of economic development in agriculture begins by sustainably increasing ▸

Dayo N. Gaines/UNDP/Tajikistan

productivity – increasing the value of what is grown on each hectare by improving crop yields and management practices. Developing countries have too often put neither enough resources nor a sustained commitment into agricultural and other rural development to solve the problem of rural poverty.

The end result is that in many cases agriculture in developing countries has still to reach its potential. There has been progress on liberalizing their markets in the last decade or so, but many are still artificially depressing incentives to their farmers and agriculture through such policy distortions as putting ceilings on prices, using food aid, and underinvesting in rural infrastructure. These lower overall food production, and thus farmers' incomes. The net effect of the entire constellation of public policies in these countries is effectively to tax agriculture, ensuring that its performance does not match its potential.

Price volatility

Many developing countries that import more food than they export are rightly concerned about the volatility of international commodity prices. This volatility preceded the last, Uruguay, round of trade negotiations and many analysts then argued that the problem was the prevalence of non-tariff barriers, such as export and import quotas, that cut the link between domestic and international prices. The outcome of the round, however, did little to re-establish that link. Limited changes in the agricultural policies of the United States of America and the European Union (EU) have resulted in governments reducing the stocks of grain that had previously buffered the volatility of international commodity prices; as a result this has actually increased following agreement on the Uruguay round.

When prices are so volatile, countries can be led to seek national food security by pursuing self-sufficiency so as to avoid relying on global grain markets. This can be costly in terms of both economic waste and environmental damage. Recently The World Bank proposed an insurance scheme to help low-income food-importing countries deal with the risk inherent in the volatility of global grain prices – particularly the longer term risk which cannot be handled by present futures markets.

Fair play

We have more than enough food today, but we cannot afford to be complacent. More than half as many people again are forecast to join the world's population by 2050. As Professor Gordon Conway, President of the Rockefeller Foundation, puts it in a recent book, we need a 'Doubly Green Revolution', one which increases harvests without damaging the environment. Given the fact that the world's people and its arable land are not always in the same place, increases in purchasing power generated through successfully reducing poverty will mean that a higher proportion of the world's production will need to move through international markets. So the global market place must be a fair playing field for developing countries.

Developing countries need to invest in their own agriculture

Developing countries need to invest in their own agriculture and to remove biases against it in their policies. As partners in the development process, we need to assist them in securing liberalized domestic markets. More importantly, we need to make sure that the policies advocated for developing countries are reciprocated in developed ones so as to ensure a fair global trading system. It is unreasonable to expect market liberalization in the developing world while the United States of America and the EU maintain such highly protectionist policies for their own agriculture ■

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New millennium, new regulations

DAVID WHEELER, DAVID SHAMAN, SUSMITA DASGUPTA, BENOIT LAPLANTE and **HUA WANG** describe how pioneering economic initiatives and information technology are creating a new model of pollution control for developing countries

Conventional wisdom holds that developing countries cannot hope to clean up the industrial pollution of their air and water until they reach a level of affluence today seen only in wealthy countries. This conventional view also claims that further expansion of industrial output will inevitably worsen the already severe levels of pollution common in their urban areas. Another widely held belief is that growing global trade and open borders are encouraging dirty industries to move to developing countries, which cannot afford to curb environmental abuses.

Five years of research, policy experiments and first-hand observation have shown all this to be false. Factories in many poor countries are now run more cleanly than they were a decade ago. Total emissions are actually falling in some areas where industry is growing rapidly. Furthermore, 'pollution havens' – where developing countries provide a permanent home to dirty industries – have failed to materialize. Instead, poorer nations and communities are acting to reduce pollution because they have decided that the benefits of abating it outweigh the costs.

A flexible approach

Environmental regulators in developing countries are trying fresh approaches and finding new allies in the battle to curb pollution. These initiatives stem from a widespread recognition that traditional pollution regulation is inappropriate for many developing nations. New regulatory institutions are often unable to enforce conventional standards for discharges from factories. Many regulators also recognize that such standards are not cost-effective, because they require all polluting factories to toe the same line, regardless of the costs of abatement and local environmental conditions.

Developing country regulators are now breaking out of this one-size-fits-all approach, opting instead for more flexible and efficient systems that provide strong incentives for polluters to clean up. Some of these pioneers have turned to charging polluters for every unit of their emissions. Experience in Colombia, China and the Philippines has shown that many managers institute serious pollution control when they face steep, regular payments of this kind. Such charges generate public revenue as well as cutting emissions – and this, in turn, can be used to support local efforts to control pollution.

Other environmental reformers are using rating systems that give public recognition to factories that adhere to pollution standards – and to train the communal eye on those that do not. By classifying factories on their emissions, and widely broadcasting the results, they enable communities to identify serious polluters and to pressure them to clean up. Investors, lenders and consumers, concerned over liability from poor environmental practices and wanting to reward green manufacturers, also bring pressure to bear. Public disclosure programmes have been particularly effective in curbing pollution at modest cost in Indonesia and the Philippines, and have proved potent even in places where formal regulation is weak or absent.

Public education on the sources and impacts of pollution also provides a powerful lever for improving the lives of poor people, who suffer greatly from emissions. Armed with good information, poor ▸

John Chiasson/Liaison/Magnum

Economic development and industrial pollution are not immutably linked

citizens can work with environmental agencies and elect political leaders willing to pressure factories to curb pollution.

Regulators are relying on low-cost information computer technology which allows citizens to report environmental problems – and cuts the cost of gathering, processing and distributing information – to make such programmes work. Selective, focused use of environmental databases and computer models – together with public involvement – can help communities and businesses to negotiate environmental priorities and action plans based on a common understanding of the effects of pollution and the costs of abating it.

These initiatives are working because they have a solid economic foundation. Plant managers do not pollute because they enjoy fouling the air and water, but because they are trying to minimize their costs. They will tolerate emissions up to the point where the penalty for more pollution becomes greater than the cost of controlling it.

Indeed managers' sensitivity to costs gives regulators many opportunities to influence their decisions. Environment agencies can, for example, lower pollution control costs by supporting training in environmental management for small and medium-sized enterprises. Recent pilot projects in Mexico have shown that this can be a cost-effective complement to conventional regulation.

Anticipating impacts

National economic reforms can also reduce pollution. Greater openness to trade can enhance managers' access to cleaner technology, while cutting subsidies for raw materials can encourage companies to reduce waste. State-owned enterprises are often heavy polluters, so privatization can contribute to cleaner production. Countries as diverse as China, India and Brazil have demonstrated the power of such measures to reduce pollution. But economic reforms are no panacea, because some growth-promoting measures can sometimes make local pollution worse. Economic reformers should anticipate such impacts and work closely with environmental agencies to offset them.

Overall, the proliferation of innovative channels for reducing emissions has created a new information-intensive and transparent model for pollution control in developing countries. As environmental agencies exert influence through formal and informal channels, they become more like mediators and less like dictators. Community representatives take their place at the negotiating table with regulators and factory managers. Market agents make their

presence felt through the decisions of consumers, bankers and stockholders. The new model gives policy makers more options, but it also imposes new responsibilities – for strategic thinking about the benefits and costs of pollution control; for a strong commitment to public participation; for clever, focused use of information technologies; and for a willingness to try new approaches such as pollution charges and public disclosure. Of course, regulators will always have important responsibilities for monitoring factories' environmental performance and enforcing legally mandated standards and regulations. But in the new model they use more resources to encourage informal regulation, to provide better public information, to give managers technical help, and to promote environmentally sound economic reforms.

We have helped establish many of the innovative programmes we discuss, and have studied their impact. Since 1993, we have collaborated with pioneers of the new model in Indonesia, Colombia, China, Brazil, Philippines, Mexico and other countries.

Together, these experiences have persuaded us that the conventional wisdom is wrong. Economic development and industrial pollution are not immutably linked. Developing countries can capitalize and build on the new model to reduce emissions significantly, even if they grow rapidly during the coming decade ■

David Wheeler is Lead Economist; David Sharman is Environmental Research Analyst; and Susmita Dasgupta, Benoit Laplante and Hua Wang are Environmental Economists, at The World Bank's Development Economics Research Group on Infrastructure and Environment.

'WE THE PEOPLES'

The Role of the United Nations in the 21st Century

Pachamama: Our Earth, Our Future

'Children are often the driving force behind eco-friendly living', says a new publication which gives them an international voice. Hundreds of children from every continent cooperated to prepare *Pachamama: Our Earth, Our Future*. Named after a word meaning Mother Earth in the Inca culture, it is a special youth edition of UNEP's *Global Environment Outlook 2000*. These extracts spell out a challenge from the generation with most at stake in the new century.

'Ladies and gentlemen! This is your information officer speaking to you from the GEO Information Centre of Spaceship Planet Earth. As you know, there are no passengers on this spaceship. We are all, in a sense, pilots.

'We all have an impact on our route and flight plan. This update is just to tell you that, from here, it looks like you're all making a pretty poor job of it! I would like to wish you all a pleasant life-flight, but I've just checked out the computer projections and I have to tell you that, if you behave as recklessly as your parents, the good ship Planet Earth will crash sometime in the not too distant future!

'This need not happen, of course, but all of you out there, especially those of you who are chewing up its surface and wasting its fuel, will have to choose a different flight plan – and do it pretty soon if this flight is to have a happy ending. Thank you and choose your flight plan carefully.'
The Editors of Pachamama

'Humans, once considered to be the only creatures wise enough to alter the environment for our convenience, have turned out to be the only ones insane enough to demolish it.'
Robert Oburta Wanndera, Uganda

'I cannot understand why adults are so stupid as to think that technology can solve every single problem.'
Mauricio Flores Castro, Mexico

'Though everything may seem everlasting, caring should start from the youth in me.'
Angela Shima, The Philippines

Ilze Vrublevska/UNEP/Topham

'Governments need to open their eyes to the needs of the planet and take drastic action for change. At present, they are blinded by power struggles and distorted priorities and they are hurting the Earth and themselves.'
Amy Saunders, Scotland, United Kingdom

'If I were Head of State, I would control enterprises and make sure they obeyed environmental laws strictly. I would punish them severely if they broke the laws.'
Boris Medvedev, Ukraine

'Plant a tree for every happy moment. Recycle paper for every feeling you wrote. Take care of endangered animals for everyone you love.'
Monica Edward, Monica Ortega and Roxana Nevorrez, Mexico

'We must take action against those who get satisfaction in driving species to extinction.'
Tuomas Korteinen, Finland

'There is not a market where we can buy another planet!'
Ana Gabriela de Luna, Mexico

'We, the children of today, must demand that laws are passed to control the rate at which forests are cut to ensure that some forest remains for the future.'
Richard Buobo Mesco, Uganda

'Each country should have a Youth Environment Security Council to look at environmental issues and suggest what action the government should take. The council would also develop projects for young people to carry out, with government support. Representatives of the national councils could meet to exchange ideas and lobby for international agreements to protect the environment for their, and future, generations.'
The Editors of Pachamama

Pachamama, *published by Evans Brothers, is a joint project of UNEP and Peace Child International, in partnership with UNESCO and UNICEF, and funded by the United Nations Foundation for International Partnerships. Copies are available (price: £7.99) from SMI Ltd., PO Box 119, Pin Green, Stevenage, Herts SG1 4TP, United Kingdom; tel: +44 1438 748111; fax: +44 1438 748844; or through http://www.earthprint.com*